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Comparative study of selected physical fitness variables among men football and hockey players

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Abstract

The purpose of this study was to compare the physical fitness variables among intercollegiate level men football and hockey players. To accomplish the goal of the current research thirty Intercollegiate Football and Hockey Men Players who were active in sports age ranged from 20 to 25 years old randomly selected from Department of Physical Education, Pondicherry University. They are randomly divided and employed into two equal groups, consist of 15 members each. Group-I Football players and, Group-II Hockey players. The subjects were measured by their speed, agility and lower body strength. The collected data were subjected to statistical treatment "t" ratio was employed, separately for each and agility between football and hockey players. The calculation "t" ratio was tested for significance at 0.05 level of confidence. The subjects living condition and lifestyle were not taken into consideration for this study.

Keywords: Physical fitness, strength, speed, agility

Introduction

Physical fitness is the ability to carry out daily tasks with vigor and alertness, without undue fatigue and with ample energy to engage in leisure pursuits and to meet emergency situations. Physical fitness is gauged by performance, and this performance is based on a composite of many factors. The most commonly mentioned fitness factors are speed, power, endurance, balance, flexibility, co-ordination and accuracy.

Definition of the Terms

Speed

It is the performance pre-requisite to do motor actions under given conditions (movement task, external factors, individual pre-requisites) in minimum of time (Schnabel 1987).

Agility

The agility is the capacity of the individual as, measured by the rate of changing his position in space. The ability to change directions quickly and effectively with moving as nearly as possible of full speed.

Strength

Strength is conditional ability. It is one of the important motor ability in sports. Strength is the ability to overcome to act against the maximum resistance.

Methodology

Subjects

This study was designed to compare the lower body strength, speed, and agility of between Football and Hockey players. To achieve this purpose, fifteen Football players and fifteen Hockey players were selected by randomly from Pondicherry University, Department of Physical Education & sports, Pondicherry. Their age ranged from 20 to 25 years.

Experimental Design

A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose of economy in procedure.

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The purpose of this study was to find out the selected physical fitness, performance variables among intercollegiate level men football and hockey players. The researcher used the random group design in this study. In this research design randomly selected fifteen football and hockey men players who volunteered to participate in this research. They were measured by their speed, agility and lower body strength. Data were obtained from the subjects on selected physical fitness variables speed, agility, and strength. The collected data were subjected to statistical treatment using to 't' ratio to find out the significance of the means obtained.

Selection of Variables

The scholar reviewed the available scientific Literature pertaining to Physical fitness form book and journals and also discussed with the experts, feasibility, availability of instruments and equipment. The following variables are given in the table below and their related list.

Table 1: Selection of Variables and Tests

S. No	Physical Fitness Variables	Test
1	Speed	50 Mts Dash
2	Agility	Shuttle Run
3	Strength	Standing Broad Jump

Results and Discussion

The test was administrated to 15 football players and 15 hockey players from the Pondicherry University at the age

groups of 18 to 27 years.

Level of Significance

“t” ratio was employed, separately for each and agility between football and hockey players. The calculation “t” ratio was tested for significance at 0.05 level of confidence. All the statistical analysis was done in the computer system using statistical package for social sciences (SPSS). The results of the analysis are as follows.

Table 2: Computation of Mean, Standard Deviation, Mean Difference and ‘t’ value for Speed [50mts Dash] of Football and Hockey players.

Group	Mean	S.D	S.E	M.D	“t” Ratio
Hockey Players	8.0013	0.11426	0.02950	0.31467	3.605
Football Players	8.3160	0.31820	0.08216		

Significant at 0.05 level of confidence

Degree of freedom 30-2=28, 0.05 level=2.05

Table -II indicates that obtained mean of football and hockey players are 8.0013 and 8.3160 respectively.

The ‘t’ value required to be significant at 0.05 level of confidence at 28 degrees of freedom is 2.05 and calculated 3.605, which is more than the tabulated value at 0.05 level of confidence. So, there was a significant difference between the football and hockey players.

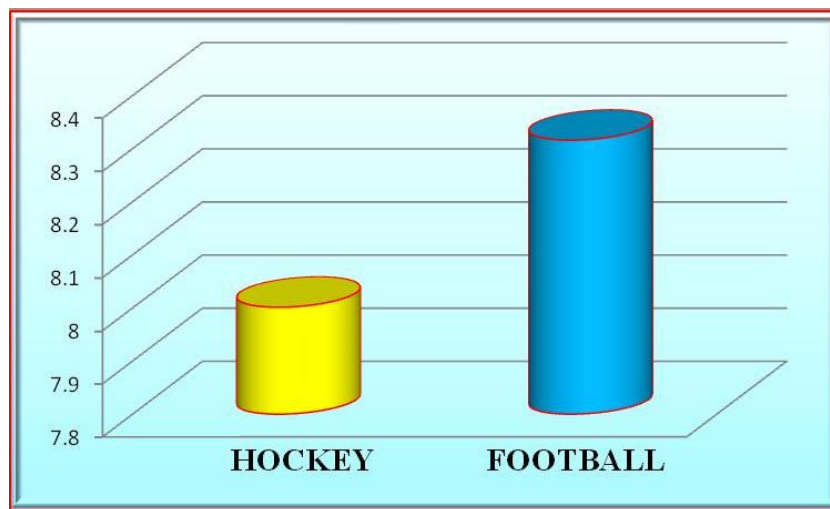


Fig 1: Bar diagram showing the mean difference of speed between football and Hockey players

Table 3: Computation of Mean, Standard Deviation, Mean Difference and ‘t’ value for Agility [Shuttle run] of Football and Hockey players.

Group	Mean	S.D	S.E	M.D	“t” Ratio
Hockey Players	10.9013	0.35387	0.09137	0.58467	3.898
Football Players	11.4860	0.46076	0.11897		

Significant at 0.05 level of confidence

Degree of freedom 30-2=28, 0.05 level=2.05

Table -III indicates that obtained mean of football and hockey players are 10.9013 and 11.4860 respectively.

The ‘t’ value required to be significant at 0.05 level of confidence at 28 degrees of freedom is 2.05 and calculated value is 3.898, which is more than the tabulated value at 0.05 level of confidence. So, there was a significant difference between the football and hockey players.

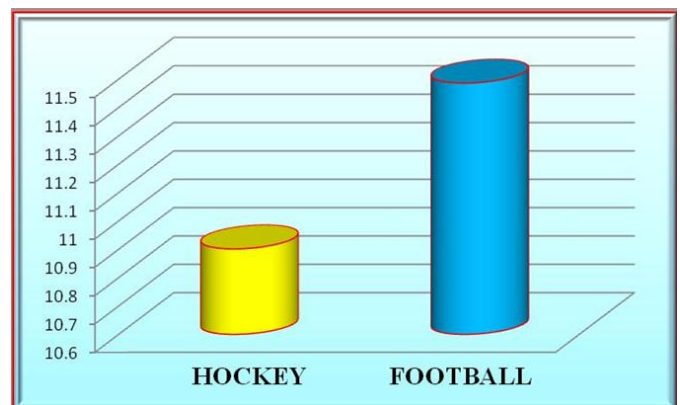


Fig 2: Bar diagram showing the mean difference of agility between football and hockey players

Table 4: Computation of Mean, Standard Deviation, Mean Difference and 't' value for strength [standing broad jump] of football and hockey players.

Group	Mean	S.D	S.E	M.D	"t" Ratio
Hockey Players	1.5840	0.31069	0.08022	0.34867	3.454
Football Players	1.9327	0.23729	0.06127		

Significant at 0.05 level of confidence

Degree of freedom 30-2=28, 0.05 level=2.05

Table- IV indicates that obtained mean of football and hockey players are 1.5840 and 1.9327 respectively.

The 't' value required to be significant at 0.05 level of confidence at 28 degrees of freedom is 2.05 and calculated 3.454, which is more than the tabulated value at 0.05 level of confidence. So, there was a significant difference between the football and hockey players.

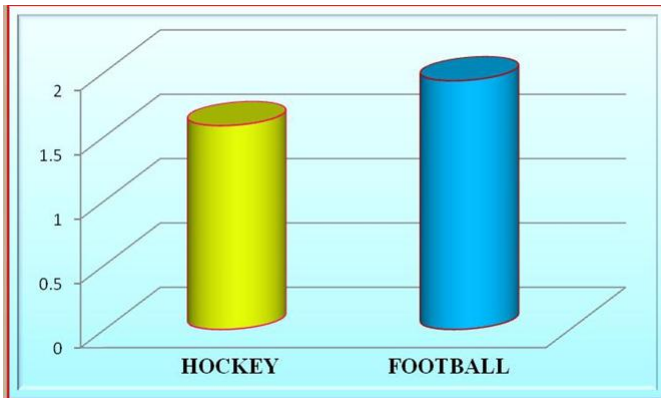


Fig 3: Bar diagram showing the mean difference of strength between football and hockey players

Conclusion

By results and findings, it has concluded that football players had better Speed, Agility, and lower body Strength than the hockey players. The following recommendations made by this study that the same research can be conducted on different players with different games with various age groups and different sex.

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